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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/679,308	10/06/2000	Seiji Nonaka	2000 1402	9619

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EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/21/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/679,308

Applicant(s)

NONAKA ET AL.

Examiner

Julian A. Mercado

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23, 59-79, 104 and 121-123 is/are pending in the application.
- 4a) Of the above claim(s) 11-23, 59-79 and 104 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 121-123 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Remarks***

This Office Action is responsive to Applicant's amendment filed June 12, 2002.

Claims 11-23, 59-79 and 104 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10. Applicant is noted to traverse the restriction requirement to the extent that Applicant may pursue a rejoinder of the method claims upon allowance of the pending product claims.

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/381,680, filed on September 23, 1999.

Claims 54-58 have been canceled without prejudice per Applicant's amendment.

Claims 1-9 and new claims 121-123 are pending in the Application.

The prior art rejections based on JP 11121301A, Yamada et al. and Fauteux et al. have been withdrawn.

This Office Action presents a new ground of rejection(s) and is therefore made NON-FINAL.

### ***Information Disclosure Statement***

The information disclosure statement filed June 12, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that

portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Of note, the June 12, 2002 IDS cites U.S. Pat. 5,150,283 to Yoshida et al., which is a duplicate citation of that reference presently cited in IDS paper No. 3 filed February 20, 2001.

Applicant is hereby requested to provide an English-language copy of the Abstracts for each of the Japanese documents cited in the June 12, 2002 IDS in reply to this Office Action.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 50-44461.

The JP 50-44461 (hereinafter '461 and in reference to the Abstract) teaches an electrode material comprising a valve metal and carbon particles from a dispersion fixed in a surface thereof. The carbon particles are specifically disclosed to be deposited on the rough surface, therefore it is reasonably presumed that the particles will be exposed thereon. (applies to claim 1, 2) The electrode metal material is specifically disclosed employed in an electrolytic capacitor. (applies to claim 5)

Claims 1, 2, 3, 6, 7, 10, 122, and 123 are rejected under 35 U.S.C. 102(b) as being anticipated by Fraioli et al. (U.S. Pat. 3,644,145)

Fraioli teaches a cathode sheet metal material comprising a valve metal such as aluminum having conductive carbon particles fixed in a surface of the valve metal material. (col. 2 line 27-30 and 48-54, applies to claim 1, 6, 7, 10, 122, 123)

In especially preferred embodiments, the valve metal parts of the positive electrode comprise a current collector screen in the conductive cathode material, e.g., in a body of conductive porous carbon, a positive terminal, and a cathode-ter-

50 An electrode coil is prepared as follows. A paper cathode sheet consisting of a water-laid web of asbestos fibers and conductive carbon particles on an aluminum expanded metal screen which serves as a current collector and scrim, is made as described in Example 1 of U.S. Pat. application Ser. No. 781,577 filed Dec. 5, 1968 now U.S. Pat. No. 3,531,205, by A. V. Fraioli et al. A strip is cut to size from the paper cathode

As the current collector valve metal is disclosed "in a body of conductive porous carbon", the carbon particles are considered exposed on its surface. (applies to claim 1, 2)

The surface of the valve metal is coated with a passive film. (col. 3 line 60-65, applies to claim 3)

When the cells made and tested as described in Example 1 60 are disassembled for inspection, the aluminum surfaces that have contacted the electrolyte are found to be covered with a very thin oxidized film which has prevented any substantial corrosion of the aluminum parts, even after long periods of storage. Other embodiments of the invention are made by the 65

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1745

Claims 4, 8, 9 and 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fraioli as applied to claims 1, 2, 3, 6, 7, 10, 122, and 123 above, in view of Hart et al. (U.S. Pat. 3,652,902).

The teachings of Fraioli are discussed above.

Fraioli does not explicitly teach the electrode metal material coated with an activated carbon layer. However, the skilled artisan would find obvious that the porous carbon disclosed in Fraioli coating the electrode metal material is activated, in that activated carbon is known to be porous carbon. See Hart, column 2 line 5-12.

5 An activated carbon or highly porous graphite material 1, 5-40 mils in thickness in the preferred embodiment, is utilized as an electrode. This material exhibits a very large true surface to geometric volume. This is achieved by using activated carbon or highly porous graphite. Activated carbon is made by  
10 expanding the pores in the carbon to increase the true surface area of the material. The term "activated carbon" is well known in the art.

Additionally, in view of the cited portion of Hart above, the skilled artisan would find obvious to employ an activated carbon layer such as graphite in Fraioli's invention. The motivation for such a modification would be to enhance the reactivity of the electrode by virtue of an increased surface area. (applies to claim 4, 8, 121)

As to the carbon particles having a mean diameter in the range of 0.01 to 50  $\mu\text{m}$ , absent of unexpected results it is asserted that these are optimizable parameters for result-effective variables. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) The diameter of the carbon particles are considered result-effective as it directly correlates to the degree in which the carbon is made active. (applies to claim 9)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fraioli as applied to claims 1, 2, 3, 6, 7, 10, 122, 123 above, in view of Belloni (U.S. Pat. 3,611,056).

The teachings of Fraioli are discussed above.

Fraioli does not explicitly teach the electrode metal material in an electrolytic capacitor. However, Belloni teaches an electrolytic capacitor similarly employing an electrode valve metal material for the cathode. (col. 1 line 67-68)

~~surface an insulating oxide layer. Cathode 12 may also be a  
valve metal or of another metal, such as silver. Electrolyte ab-~~

Thus, the skilled artisan would find obvious to employ Fraioli's invention in an electrolytic capacitor. The motivation for such a modification would be to enhance the capacitor's corrosion resistance.

### ***Response to Arguments***

Applicant's clarification of the term "valve metal" is gratefully noted. In reply, the examiner presents the new ground of rejection(s) set forth above.

Applicant's arguments have been fully considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



ram

August 19, 2002



Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700